



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/177,837	10/23/1998	MICHAEL BURNETT	00167/318001	3644
7590	04/07/2005		EXAMINER	
JOEL R PETROW			WHIPKEY, JASON T	
SMITH & NEPHEW NORTH AMERICA				
1450 BROOKS ROAD			ART UNIT	PAPER NUMBER
MEMPHIS, TN 38116			2612	

DATE MAILED: 04/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/177,837	BURNETT ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Jason T. Whipkey	2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 24 January 2005.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-23 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to:
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 26 April 2004 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 24, 2005, has been entered.

### ***Response to Arguments***

2. Applicant's arguments with respect to claims 1-23 have been considered but are moot in view of the new grounds of rejection.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buchin (U.S. Patent No. 5,475,420) in view of Homma (U.S. Patent No. 5,272,538) and Konishi (U.S. Patent No. 6,208,385).

Regarding **claims 1, 7, 13, and 18**, Buchin discloses an image processing system for use with an endoscope. The image processing electronics are shown in the block diagram in Figure 3A. Digital signal processor 153 (“image size detection circuitry”) determines the location of the active image data within the entire image data captured by CCD array 151 (“an image sensor”) (column 10, lines 55-60). DSP 153 provides a signal for controlling the automatic shutter system, which may be an electronic shutter (column 19, line 50), in accordance with the detected actual image area (column 3, lines 58-64).

Buchin is silent with regard to continually monitoring and identifying changes in an actual image area within a total image area and using the identified change to control an electronic shutter.

Art Unit: 2612

Homma discloses an exposure control device, as shown in Figure 2, that controls a diaphragm or electronic shutter 2 (column 1, lines 32-36). As shown in Figure 4, the system continuously adjusts light measuring area B, upon which exposure is based, to match the location and size of main object C within entire area A (column 3, lines 11-17, and column 8, lines 10-19). As stated in column 2, lines 64-68, an advantage to continually adjusting an exposure-control area in accordance with the shift of a subject area is that optimum exposure may be attained. For this reason, it would have been obvious at the time of invention to have Buchin's system continuously update the location of the main image area.

Buchin and Homma are both silent with regard to determining an actual image area from a luminance component having an average duration proportional to the actual image area.

Konishi discloses a letterbox image detection apparatus for detecting an actual image area within a full image area. As shown in Figure 2, average value calculator calculates an average of the luminance signals of each of a plurality of columns (see column 9, lines 59-65) in order to determine the presence and location of the black bars associated with a letterboxed image. Since the bars are black (see column 1, lines 29-33), it is inherent that the size of the actual image area (i.e., the non-black area) is proportional to the amount of time necessary to display that area.

As stated in column 5, lines 11-17, an advantage of detecting an actual image area in this manner is that a temporarily dark actual image area will not be mistaken for the permanently shaded black area, thus resulting in more accurate detection of the actual image area. For this reason, it would have been obvious at the time of invention to have Buchin's image processing system include the image detection area system described by Konishi.

Regarding **claims 2, 8, 14, and 19**, Buchin teaches that DSP 153 can retrieve preset image boundary parameters (“predefined shutter response areas”) stored in a table (column 11, lines 4-7). Plural sets of parameters may be stored (column 11, lines 20-24). As described above, DSP 153 provides a signal for controlling the electronic shutter in accordance with the detected actual image area (column 3, lines 58-64).

Regarding **claims 3, 9, and 20**, Buchin shows in Figure 3A that the image processing system includes digital signal processor 153 (“a processor”), ROM 177, and RAM 157 (“a memory”).

Regarding **claims 4, 10, 15, and 21**, Buchin teaches that the luminance component of the image signal is used to determine the location of the actual image (column 13, lines 43-49).

Regarding **claims 5, 11, 16, and 22**, DSP 153 acts as a comparator by calculating the boundary of the actual image area (column 16, lines 17-18). DSP 153 also acts as an integrator by using the result to store only the valid pixels in frame store 155 (column 17, lines 35-40). Finally, the processing circuitry includes analog-to-digital converter 183.

Buchin is silent with regard to performing the above calculations in analog form and using the result to digitize the actual image area.

Official Notice is taken that calculations may be performed by either analog or digital circuitry. An advantage to performing the calculations in analog format and using the result to digitize the actual image data is that a smaller digital memory is required, since only the relevant pixels need to be stored. For this reason, it would have been obvious at the time of invention to have Buchin locate the actual image area using analog calculation circuitry.

Art Unit: 2612

Regarding **claims 6, 12, 17, and 23**, Buchin teaches that a plurality of pixels are formed on CCD array 151 (column 10, lines 55-60).

***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Whipkey, whose telephone number is (571) 272-7321. The examiner can normally be reached Monday through Friday from 8:30 A.M. to 6:00 P.M. eastern standard time, alternating Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber, can be reached at (571) 272-7308. The fax phone number for the organization where this application is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JTW

JTW

March 31, 2005

  
WENDY R. GARBER  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600